BEEF COW HERDS

COOPERATIVE EXTENSION SERVICE
THE OHIO STATE UNIVERSITY
BULLETIN 475

CONTENTS

6/66—6M

The Ohio State University cooperating with the U. S. Department of Agriculture. Cooperative Extension Service, Roy M. Kottman, Director, Columbus, Ohio 43210. Printed and distributed in furtherance of Acts of May 8 and June 30, 1914.

BEEF COW HERDS

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Starting a Beef Breeding Business

Deciding when to get into the beef cattle breeding business is rather simple. If your farm is suited best for grain, then consider commercial cattle feeding. If the farm is suited best for pasture, meadow crops, and a small amount of grain, or a balance between pastures and grain, a beef cow herd may be the best choice. But never base your decision on the price of beef at any one time.

To figure the best paying livestock enterprise at a given time and then to jump in that direction is bad economics. Price and other factors over a period of time are more important. All farm income sources have their ups and downs in price.

Most operators find that spreading their income sources over several areas, then cutting back or adding to according to price changes, is smart management. Only a few operators have profitably outguessed short trends and made money by shifting from one kind of livestock to another.

If you are interested in raising cattle, willing to learn the know-how, and intend to operate your farm to produce the kind of feed a beef cow herd uses best—then now's the time to start.

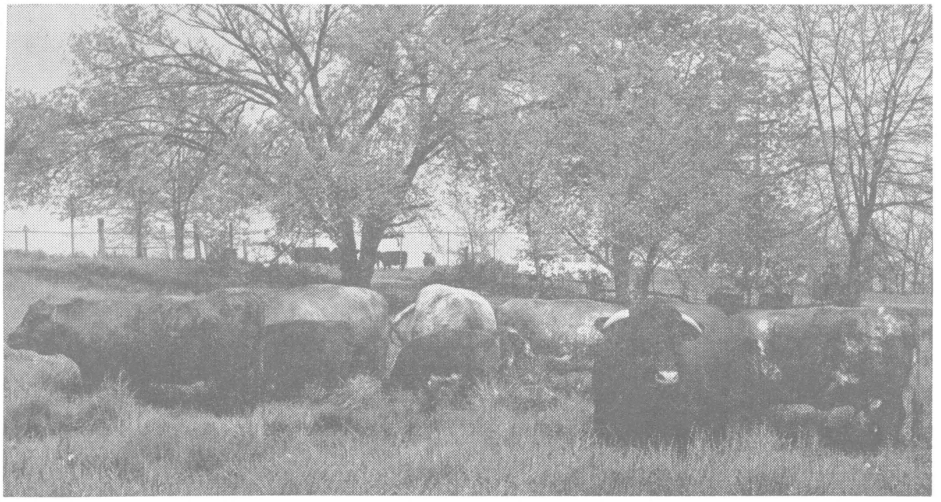
WHY OHIO FARMERS FIND THE BUSINESS SUITABLE

1. Low labor and machinery costs. As Ohio becomes more industrialized, the price of labor is higher, and many farmers find more profit in working for industry and farming part time. This will be true on the small farm and in less productive areas of Ohio. The part-time farmer with little time and labor for field and chores can keep machinery and operating costs down by keeping beef cows.

2. Demand is great. Ohioans eat more than twice as much beef as is produced in the state. Ohio is between the large beef consuming centers of eastern United States and the great breeding and fattening areas of the West.

3. Few extra costs. Being near consumers lessens freight rates, handling charges, commissions, shrinkage, and risk—all of which are extra costs of —feeder cattle from outside the state.

4. Good use of pasture and roughage. Ohio farmers planning to keep a high per cent of their land in sod crops, either permanent sod or rotation meadow crops, will find the beef cow a practical answer for converting such crops into cash.



Desirable cattle are in all the beef breeds.

5. Overhead affected little by herd size. The number of cows in a herd has little effect on overhead expenses of the operation. In this respect, the commercial beef cow herd differs from most livestock enterprises.

6. Suitable for old and young farmers. Older farmers interested in reducing the amount of field work and winter chores can do so by adding sod acres and beef cows. Young farmers and underfinanced farmers may find beef cows suitable because of the low risk involved.

SOME TIPS BEFORE YOU START

The breed to choose is less important than management in making a success of commercial beef cattle breeding. For generations, cattlemen have debated the merits and shortcomings of the various beef breeds and have constantly tried to improve their favorite breed. The debate will continue. The breed you like best is one factor to consider.

If you are a beginner, there are some generally recognized breed differences you should study. These differences include mature size, milking ability, carcass quality, ruggedness, foraging ability, early maturity, polled characteristic, temperament, and over-the-scale prices feeders or packers pay for cattle.

These differences are less important to success than management. Success depends more on getting a high percentage calf crop to marketable age, producing quality cattle, selecting for desirable conformation in the breeding animals, utilizing roughage for growth and maintenance, keeping overhead expense low, providing inexpensive shelter, breeding for rapid growth, breeding at the right season of the year, and preventing losses from disease or parasites.

More differences are found in performance among individuals within a breed than between breeds. Success comes through the selection of good foundation stock and a continued effort to improve them, using proper methods of culling, feeding, management, marketing, and progressively better bulls.

Start at a safe financial level. Keep the business flowing as smoothly as possible. Heifer calves of satisfactory breeding can be bought in the fall at an over-the-scale market price rather than by the head.

If you are interested in this plan, buy the best well-grown heifer calves offered for sale as feedlot cattle. Buy many more heifers than you want for brood cows. By mid-winter, cull the herd and fatten the culls for market. The market for fat heifers is usually good in June and July.

By doubling the weight of each heifer sold you can often regain your original investment in two heifers by the sale of one. Save enough heifers to permit culling at breeding time and again later.

A breeder who starts with well-bred heifers should be on the lookout for a few good registered females. Add them to the herd as a foundation for developing a purebred herd. Buy heifers of uniform breeding to get more uniformity in the calf crop.

You can avoid losing money, if you talk with and follow the advice of successful breeders and professional or market people with experience.

Cows of all ages are available any season, but are in greatest supply in the fall. You can start a beef cow herd with any age cow.

With proper assistance and know-how, you may find the older ages the best buy. Bred females can be pregnancy tested to get a near 100 per cent calf crop the first year. The original investment per head of bred females will be much higher, but income by way of a calf will occur much earlier. In the long run, the higher per head investment may be the least expensive. The prices of breeding cattle at a particular time also should be considered.

WHICH CATTLE?

The old saying that the West breeds the cattle, the Cornbelt fattens them, and the East eats the beef is losing ground. This change is caused by shifts in production and marketing practices and population.

Many Ohio farmers are producing feeders at lower cost and with less financial risk than cattle bought from other sources. The often-heard comment that Ohioans can buy feeders from the West cheaper than they can produce them in Ohio is not supported by facts.

When deciding whether to buy feeder calves or to raise your own, consider your total farm management situation as to 1) size of operation, 2) facilities available, 3) your cropping system, and 4) your labor situation.

The kind of feed required to fatten steers in the feedlot differs from the feed required by a cow herd. In short, steers and beef cows do not compete for the same feed. A profitable combination is to keep the cow herd on pasture and coarser roughages less suited to fattening, and finish calves on the grain and roughages.

A feeder of a small number of cattle should ask himself, "Should I continue to depend on shipped-in cattle when a different system of management offers so many profitable advantages?"

South Is Becoming a Beef Cattle Country

For over a decade, more and more Ohio cattle feeders have turned to the South for feeder cattle. Currently, Virginia, West Virginia, and Kentucky provide the largest numbers. The South is an increasingly important source of feeder cattle because of certain production advantages.

More grass-fat butcher cattle for slaughter will come from parts of this area too. The first rush of beef cattle expansion is over. In the future, land and crop improvement must precede increased cat-

tle numbers. Progress will be slower but certain.

Purebred Cattle

Breeding purebred beef cattle is a highly specialized and competitive business. Success may come slowly or not at all, with many disappointments along the way.

Success depends as much on good salesmanship as on producing cattle at a low cost. A desire to achieve personal satisfaction and some financial reward tend to spur the purebred breeder on.

The inexperienced beginner in the purebred business who may be underfinanced should acquire skill and know-how in handling beef cattle before getting too involved. Use good grade females, or ordinary purbred females, before you invest in the business extensively. Purebred cattle breeding is a business a person should learn gradually. Learn and profit from your own experiences and observe closely the methods of successful operators.

Registered vs. Grades for Commercial Herds

All cattle have pedigrees or lines of ancestry. Some have written pedigrees, which are registered with authorized breed associations.

A registered animal guarantees nothing more than blood relationship to previously registered ancestry. Such animals are known generally as purebreds. Registered animals with known ancestry are more valuable.

Set your sights at the level of a productive purebred herd if you operate as a cattle breeder. Perhaps you aren't planning to specialize in the purebred business. Consider then that cattle of good breeding will reproduce their kind and be more profitable in the end in a commercial operation.

Purebred beef cattle eat no more than grade cattle and can be handled the same way as commercial cattle. Purebreds require no more housing or attention than do grade cattle.

Desirable purebred females will cost more, so your original investment is higher and, therefore, the risks are higher.

Once you recover the original investment, the risk is no greater. Maintaining registration papers requires some time and expense, but this is a small amount to pay for the advantage you gain. Sales of purebred cattle for breeding purposes, which bring prices above what the packer pays, will more than offset the cost of maintaining productive purebreds.

Type—Is too often Misunderstood

Beef type is the sum total of all the characteristics that makes a beef animal best adapted for its intended specific purpose.

The specific purpose of beef cattle for business is to produce beef for human consumption. This indicates the kind of cattle you should breed.

This definition of type follows through every phase of breeding, feeding, and processing. This definition is the same whether it is used by purebred breeder commercial breeder, cattle feeder, packer, market agency, wholesaler and retailer, or consumer.

The word "type" is not to be confused with breed characteristics, conformation, quality, or a single part of an animal. For instance, if an animal has short legs or is the shortest coupled, neither of those characteristics alone makes the animal the best or correct type. Type describes all of the characteristics of a beef animal.

Preventing Problems With Proper Management

BUYING CATTLE

You should study both cattle management and farm management before beginning to breed cattle. Buying heifer calves for the foundation herd in the fall avoids many difficulties. A mistake beginners often make is to buy bred heifers or dry cows, usually on a price basis. Many of these cattle are on the markets in the fall.

These cattle may be culls from another breeder's herd. Some or all of them may be bred, but no one knows when the calves are due. No one knows whether the bulls used were good or poor. Also not known is the health of the herd from which the animal comes.

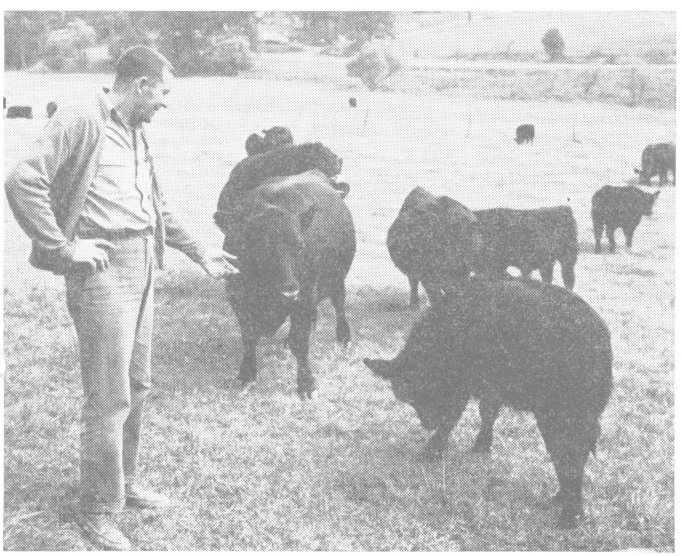
If some females are bred before purchased and the remainder bred later, calves may come over a long period. Management becomes more complicated. Older heifers bought and bred in the fall, calve at the wrong time of the year for least expensive management. This problem will occur again the next year and become progressively worse. If the heifers are not bred until the next summer, your first calf crop will not be ready to market any sooner than if you had started with calves.

You will be wise to keep management factors under control from the beginning. Major reasons why farmers quit beef breeding are disease, disgust over bred heifers that were said to not be bred, and calving at the wrong season of the year.

METHODS OF MANAGEMENT

You can manage a cow herd in four different ways and vary any of these ways to best suit your operation.

1. Produce feeder calves to sell usually at weaning time for someone else to finish. To make the most money, you should produce a weight and kind of feeder calf that will net the most dollars at sale time. The cost of maintaining the cow is the major cost of the calf and means that you must strive to keep this cost as low as is practical to get good quality calves. The objective is to breed a desirable kind of cattle.



Close observation of individual cattle within the herd is a mark of the best cattle husbandry.

2. Produce light weight butcher cattle. This method may mean more profit than feeder calf production. In this method, the objective is to produce a calf of a weight and with enough fat to make it attractive to a buyer for immediate slaughter rather than to a cattle feeder. This can be accomplished with big frame cows of less desirable beef breeding or dairy type cows. Use cows that produce much milk and breed them to a good beef bull. Creep feeding adds to the weight, finish, and ultimate income potential. Calves can be sold at weaning time as butcher cattle, or feeders may outbid packers, depending on the estimated condition of the current market and future market potential.

3. Finish original cattle to a market weight at around 15 to 16 months of age. This method is worth considering in areas or on farms that have considerable grain, especially corn. The cow herds should be given the pasture, stubble area and coarse roughage while the feedlot cattle should be fed the grain. To increase volume, buy more cattle and feed them with those raised.

4. Breed purebred cattle. The objective here is a worthy goal and requires more skill, finance, and risk than a commercial operation. The outlet for cattle is the same plus an added opportunity of selling a part of the cattle produced at a higher price to others wanting to upgrade their herds.

MARKETS FOR ALL GRADES OF FEEDERS

Commercial cattle feeders conduct a specialized operation. They plan a cropping program to provide plenty of corn plus a small amount of pasture, hay, and small grain. They pay less attention to quality of roughage and use by-product roughages largely for bedding.

Beef cattle breeders are chiefly concerned with a long pasture season for the beef cow herd and with large quantities of good roughage for winter use. They invest in a foundation herd, aim at preventing or solving production problems, and market seasonally.

A feeder buys into the business during one season and then sells out a few months later and prepares to start all over again. He is extremely price conscious since his success depends on shrewd buying and selling as well as feedlot skill.

Individual feeders have different preferences of breed, age, weight, sex, length of breeding, season of buying, time of selling, grade of feeders, methods of feeding, ration, degree of finish, and method of marketing. A cattle breeder should aim at producing feeder cattle that will give him the most net returns.

You can buy or sell any kind of feeder cattle. As a buyer of feeder cattle, protect your position by paying less and less as the quality of cattle decreases. The original seller should be the loser, he should try to produce only the best.

Some feeders feed only the best cattle, while others buy the cheapest or lowest grades. Sometimes the cheaper cattle make the most profit in commercial feeding operations because the original producer received less for his effort.

Short term trends of the current market, along with the price level, often determine what age and kind of cattle a feeder buys.

Numerous special feeder calf sales are held in the surplus feeder cattle areas of Ohio each fall; a few are held in the spring. These sales provide for the pooling of native owner-produced feeder cattle in a manner more acceptable to cattle feeders, and consequently, they net more income to producers. The various committees involved have made great progress in encouraging association members to improve the quality of Ohio feeder calves. Emphasis on better bred cattle and improved production practices is a major

These choice Ohio produced feeder calves will please many cattle feeders. Ohio should produce more of this kind.

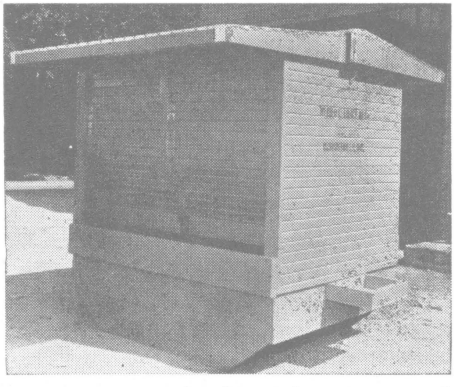
objective of the total feeder calf program. These special producer sales are worthy of consideration and patronage by buyers and sellers.

START WITH HEIFER CALVES

To grow into the beef breeding business, learning the know-how as heifers develop is a safe way to begin. If beginners buy into the business with cows or cows and calves, difficult management problems may arise. Some of these troubles could be disease, slow breeders, poor doers, culls, cows calving at the wrong time, and strung-out calvings.

A beginner who starts with heifers has the chance of keeping more production factors under control. Investment in cash is less. Heifers will grow to maturity on roughage without competing much for grain. However, more time is required before something can be sold.

The number of heifers of good breeding is largest in the fall. And that's when price is most favorable.

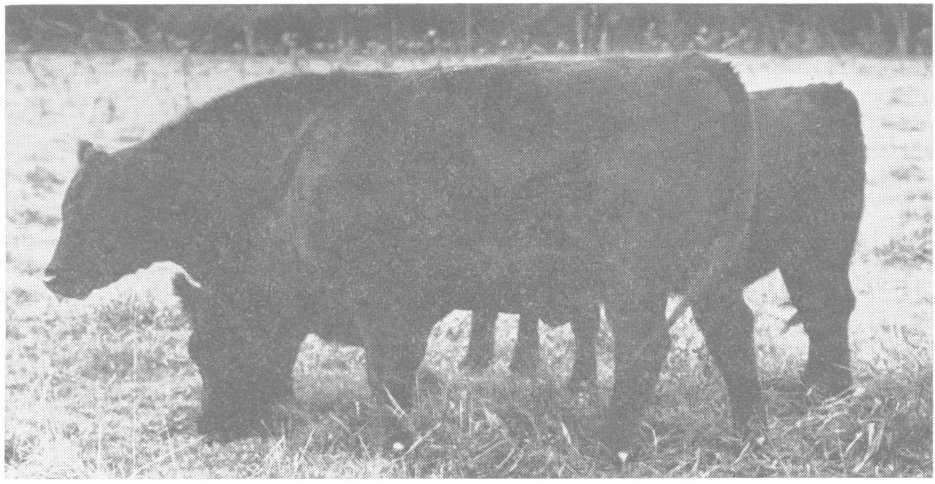


Resort to creep feeding when grass and milk are in short supply.

Spring Calves Simplify Management

Expense of keeping the beef cow a year and her calf to weaning age amounts to the cost of the calf. Experience teaches that spring calves involve less expensive management practices than do calves born at any other season of the year.

Cows settle with calf more readily when they have good pasture than at any other time. Breeding in May or June when Ohio pastures are at their best takes advantage of this and sets the time of calving at mid February and March. This may be an important factor in getting a larger percentage calf crop. Calves will be grouped nearer the same age. Cows will provide enough milk for the young calf, and the calf will be large enough to take the extra flow of milk when the cows are turned out on grass.



Good replacement heifers of the right type can be purchased at near feeder heifer prices to speed up herd improvement.

Cows can drop spring calves outdoors, as weather permits, away from buildings to help reduce the health hazard. Dry cows can be wintered with less feed than cows with fall calves. Fall and winter calves consume more grain and harvested feed and will be more expensive to produce.

If you winter the previous year's calves you may have two calf crops competing for space and shelter for a few months in the spring. Have as much of this overlapping as possible occur when the cows and new calves can be out in the field, and the previous calf crop in the feedlot. Spring calves reduce total labor load.

While most cattlemen prefer spring dropped calves, adapting the cattle breeding program to all the operation on a general farm may bring the calving period at other seasons. Winter calves and their nursing cows require more grain feed. Production costs will increase accordingly.

A skilled cattleman can produce more than an average of one calf crop per year. This can be done by breeding cows as soon as possible after calving, regardless of other considerations. Some successful operators have raised 10 calf crops in eight years. This represents the ideal in management in one direction but may be offset by other costs. Such a plan is not recommended except for the more specialized operator.

AIM FOR A 100 PER CENT CALF CROP

The only income a beef cow produces each year is the value of her calf. If she fails to raise a calf, the feed she has eaten is lost. Cull non-breeders as soon as you can identify them. Prepare them for market to the best advantage. Also, remove slow breeders as soon as you can identify them. A pregnancy test, after enough time has elapsed, is a good practice. Prepare non-breeders for market to take advantage of any short supply of feed or killer cows. The end of the pasture season usually brings hurried shipments of cull cows and relatively low prices.

Keep only females that conceive readily and deliver strong calves with little assistance. Plan to keep sure breeders in the herd for ten years or until their teeth fail. Mature cows usually perform better than heifers that need more assistance at calving time. You can tolerate calving difficul-

ties with first-calf heifers but not with mature cows.

Heavy culling for non-performance will, in time, help to raise the per cent of calf crop—the most important single factor in successful herd management.

An Ohio study that covered all beef breeds in small and large herds, with calving all seasons of the year, showed an average calf crop of 96.4 per cent. No one should be satisfied with less than this average. If your calf crop drops to less than 90 per cent, it is too low. Take steps necessary to correct the low performance.

Safeguarding the health of the herd, proper care at calving time, proper culling, and using a bull known to be a good breeder will do much to insure a high percentage calf crop.

PRODUCE PRIME CALVES FOR THE FEEDLOT

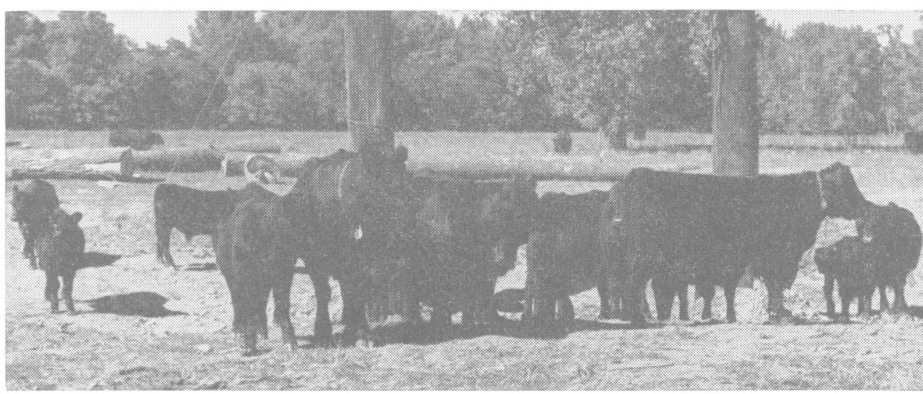
Cattlemen producing feeder calves for their own feedlots have everything to gain in breeding feeders of a high grade. A prime calf going into the feedlot in the fall after weaning provides a more valuable animal at the time. Up to this point it has returned more money for the keep of its dam. Prime calves net the most income for the feed given the cow.

A prime steer eats no more than his poorly-bred feedlot mate and will add weight at least as efficiently on the feed consumed. The difference, if any, tends to favor the better-bred steer.

There is a significant difference at market time. The prime steer outsells his inferior bred companion because he will produce a more valuable carcass. Thus, if you are a breeder of prime cattle and fatten your own feeders for market, you will sell the feed the cattle ate for more money. This difference more than pays for the higher investment in a good beef cow herd. Better bred cattle on an average consistently return more money than poorly bred cattle.

The value buyers place on different kinds of feeder calves that are pooled and sold through sales in Ohio parallels the quotations on terminal markets. Since the price level changes yearly, the spread in price by kinds of cattle is more important.

The price spread between the prime and cheaper cattle may vary as much at $8 per hundredweight. On a 450-pound calf this difference means $36 per head. This is $360 more a year to the producer on a 10-calf herd. While the spread is not always this large, it is always important. On the plainest cattle the spread may be $50 per head.



A worthy goal is to have a 100 per cent calf crop at weaning time with the calves produced on grass and the cows' milk.

No more time, feed, shelter, labor, or overhead expense is required to produce the prime grade calf than the plain calf. A slightly larger investment in the beef cow herd and the service of a desirable bull is necessary. Breeding and developing a bull on the farm can greatly reduce the cost of a desirable bull.

A big increase in income results from high quality in the breeding herd. This added income is part of the incentive and reward for using a desirable bull. Prime grade cows bred to a prime bull should produce a high percentage of calves that will grade prime and choice, with none less than good.

Buyers bid on heifer calves, bull calves, and steer calves with similar price differences as to grades of each. However, bull calves will return to their owners from $20 to $25 less per head on an average than steer calves of the same grade.

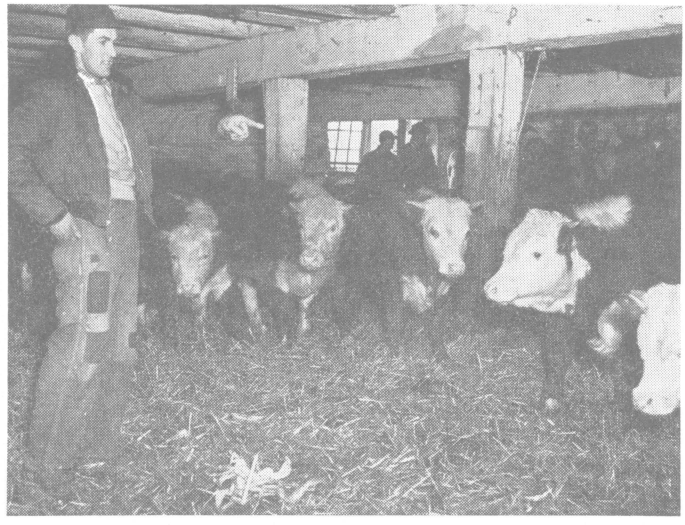
Sale records indicate that dollar returns from yearling feeder steers above returns from the same grade steer calves are too small. This raises the question: Why not produce more feeder calves and fewer yearlings?

RECORD KEEPING

A performance testing program, sponsored by the Ohio Cooperative Extension Service, is helping purebred and commercial beef cattle raisers keep records and find the best producing cows and bulls in their herds. The program not only assists Ohio beef cattlemen to receive more profits by knowing which animals to keep and which to cull, but also it improves rate of growth and overall quality of all Ohio beef cattle.

Each animal of a herd is identified and a record is begun of growth rate by age and quality grade. This information with adjustments for variables such as age of dam, sex, and age at weaning are combined so each animal can be compared. Record forms are provided and personnel assist in analyzing the records and grading the cattle. Soon, buying a performance

Performance testing adds new techniques to beef cattle breeding.



Provided all else is equal, hornless cattle are worth more than the same cattle with horns. Dehorn under 30 days of age.

tested bull will be a standard necessity. County Extension agents can provide details of the performance testing program.

Breed associations also have adopted ways to focus breeder interest on new methods of herd management.

VACCINATE CALVES

Brucellosis (Bang's disease) is a hazard that you must guard against. Once present in a beef cow herd, this disease is difficult and expensive to eliminate. If a cow slips a calf due to this disease she doesn't produce any income that year and her future usefulness is questionable.

Buy cattle officially tested for brucellosis and buy them subject to a retest on your own farm within 30 days. Officially vaccinate all your replacement calves. Use this plan even though cattle may be grade and you bought them at over-the-scale prices. Watch the cattle closely at breeding and calving times. At the first sign of trouble, isolate the cattle and immediately consult a veterinarian.

As a safeguard, retest each cow after calving. Remove all suspicious cows from the herds. No one can afford to compromise or to live with this disease.

One of the chief reasons for recommending that prospective breeders begin with heifer calves is to take advantage of vaccinating the calves. Vaccination gives the breeder good protection against chances that Bang's disease will ruin his herd.

DEHORNING AND CASTRATING

Breeders of polled cattle have a good sales point in the dehorning job their bulls perform. A cattle feeder can afford to pay 50 cents a hundredweight more for dehorned cattle than for the same cattle with horns, if the cattle are 6-8 months of age or older. Loss of time and feed while cattle recover from dehorning plus the risk involved makes the difference.

Horns can be removed at any season of the year. At fly time, take proper precautions such as smearing pine tar over the wounds. For best management, the horns should be removed before the calves are 30 days old. Since blood vessels in the horn area are small at this age, calves will lose less blood. Small calves are much easier to restrain. Horns on cattle prior to 3 months of age are only skin appendages and have not grown fast to the skull.

Methods of Dehorning

Choose a method of dehorning and learn the technique of using it. None of the common methods are difficult to use or require expensive equipment. Just get the job done while calves are young and easy to handle. A prime requirement, regardless of method used, is to restrain the calves securely while the job is being done.

A dehorning saw can be used for dehorning calves at any age and works well when cattle are 8 months of age or older. By then the horn has set to the skull and is growing tough. A horn clipper is easier and faster to use but risk is greater, especially if the horn is crushed instead of clipped.

Dehorning calves with caustic potash or a caustic soda stick should be done when calves are between 7 and 10 days of age. Clip the hair around the horn buttons and scrape the buttons until they start to bleed. Put a ring of vaseline around the area to be treated. Then, slightly moisten the potash stick and rub it over the horn buttons. A scab will form and in time drop off.

Observe these precautions: Wrap the potash stick with oil cloth or paper to keep it from burning your hands. Prevent the caustic from running down the calf's face or jaw. It will burn the skin. Keep treated calves from their dams for several hours and out of the rain for one day.

Dehorning calves with an elastrator involves the use of a special kind of rubber band that slips over the horn and catches from a third to a half inch of hair and skin. Horns will come off in about 4 weeks, but check regularly to see that bands are in place. Use an elastrator as soon as horns are large enough to hold the band—any time before the horn grows fast to the skull. Best time is when the calf is under three months of age and horn buttons are still appendages. The rubber bands and an instrument for spreading them are sold by most dealers handling livestock supplies. This method is not recommended by the author.

The tube dehorner is a newer method. The tube is a round chisel-like instrument which is placed over the horn and pressed down until it cuts through the skin. Twist your wrist—and off comes the horn. This method is easy and quick and does a neat job. It permits dehorning during any season of the year. Use an astringent to prevent excessive bleeding and put pine tar over the wound to repel flies. Tubes come in at least four sizes. Use the dehorner tube on calves from 1 to 2 months of age. Bleeding will be less then.

Another new method is the electrical dehorner. An electrically heated iron is applied to the small horn button and held until the horn area is sufficiently burned and seared. Bleeding is held to a minimum and healing is quite rapid.

Castrate Under 30 Days of Age

Castrate bull calves you do not want for breeding purposes before they are 30 days old. The job will be easier and shock will be less. Bull calves are frequently permitted to grow to six months of age before castration. Delay to that age makes the task more difficult and the risk greater. Castrating and dehorning can be done at the same time. Select a method of castrating to suit your needs. Here are these methods:

1. The **knife method** of castrating is positive and safe if ordinary cleanliness is practiced. Some cattlemen prefer to cut off the lower third of the scrotum and remove the seeds. Others prefer to slit the scrotum up and down the sides next to the legs. In either method make sure the cuts are low enough to insure drainage. Use Lysol or any other good disinfectant to disinfect the knife, hands, and scrotum area before beginning and if possible after each operation. Provide clean quarters for the calves or leave them out on pasture.

2. The **elastrator or rubber band** is a new device which some people think is easiest to use. The band is stretched by an instrument and slipped over the scrotum above the seeds. The band will contract and stop circulation apparently with a minimum of pain. The lower part of the scrotum will shrivel and come off in 4 to 6 weeks, or sometimes longer. The elastrator works best when the calves are quite young. This method requires more time in healing than many cattlemen would like. It also exposes the animals to infection longer than some methods.

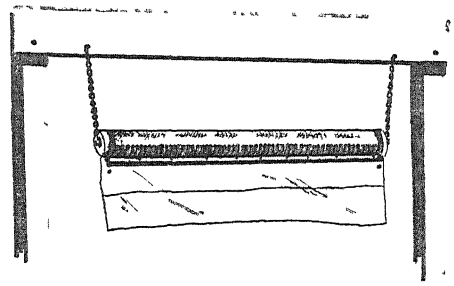
3. A **burdizzo** is an instrument that pinches off the cords and leaves the seeds in the scrotum from which they are absorbed. These "clamps" or "pinchers" are satisfactory only in the hands of careful, well-trained professionals. Too many times the cords are not completely severed and slips occur which results in staggy steers. Staggy feeder calves are discounted by feeder buyers because they sell for less than steers when fattened. An advantage of the burdizzo is that it leaves no open wound.

Castrating pays. For example, bull calves sold on a graded basis through auction markets usually net their owners about $20 per head less than steer calves of the same weight and grade.

PROVIDE INEXPENSIVE HOUSING

Allow beef cows to be outdoors all the time or most of the time—even in winter. Inexperienced operators try to be good to their cattle, but they only add to cost of maintenance and may create health hazards. To confine beef breeding cattle in barns is usually a mistake.

Beef cattle naturally grow a long thick hair coat in the fall. Many beef cattle in a more rigorous climate than Ohio's never see a barn. The most shelter they have is a thicket or a hill for a windbreak. Some successful Ohio beef cattlemen do not house their cows in winter.



Use an oiler of some type to aid in external parasite control.

If a shed or barn is used, have it open to the south or east (to gain wind advantage) with an adjoining lot to permit cattle to be indoors or outdoors at their choice of time. Either a pole barn open on one side or an L-shaped shed is adequate. Remodelled horse barns with outside lots can serve the purpose. Give more attention to housing feed and saving labor in feeding than in getting the cows indoors. A combination of drafts, dampness, poor ventilation, lack of sunlight create hazards to be avoided.

Spend more of the capital investment for silos, paved lots, and labor saving equipment and less for barns of imposing appearance and little utility.

Marks of Best Management

Pay attention to detail. A breeder should not rely on memory alone for performance of individual cows and their offspring. Identify each cow by neck chain, tatoo or brand mark and record her age, cost, date of calving, sex of calves, weight at weaning time, ultimate disposal of the calves and other useful information. Accumlating data yearly will help in culling and selecting replacements.

Breeding

TWO SYSTEMS OF MATING

Pasture breeding, or allowing the bull to run with the cows during the breeding season, usually is desirable for the commercial cattleman. Compared with hand mating it requires less time and less labor and reduces the chance of missing cows when in heat.

Watch closely to see that cows are being settled and are not returning for repeated service. Failure here can delay breeding and upset the best management plan not only for the year ahead but for several years. Poor breeding performance whether caused by the cow or bull will make the breeding season gradually grow later or string out over the year. If you permit this a year or more it will hamper herd management and increase cost.

The gestation period for a cow is 283 days or 9½ months. The heat period usually returns 6 weeks after calving and lasts from about 12 to 24 hours. It recurs in 18 to 21 days.

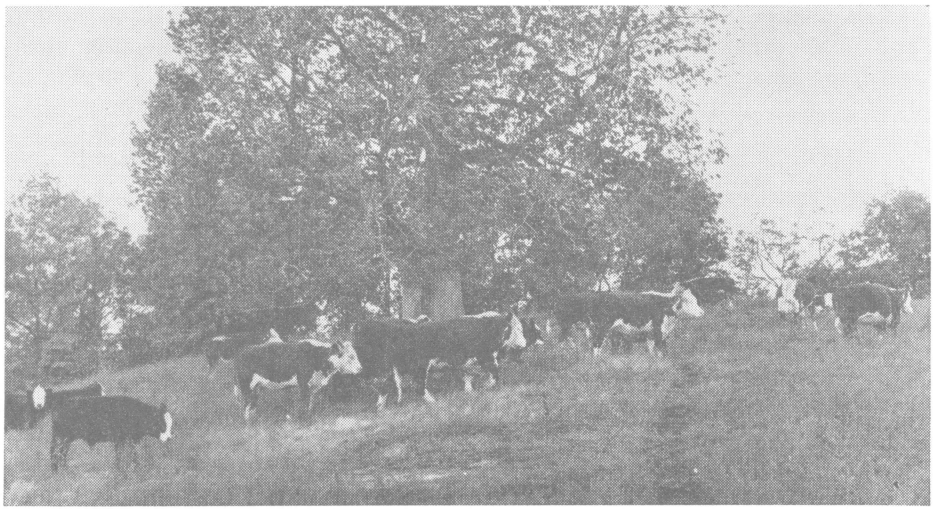
Remove the bull from the herd before heifers reach 6 months of age and keep him away from the herd until the calves are weaned, to prevent heifers from being bred. Some six-month-old heifers will breed.

Hand mating by keeping the bull confined and turning him with the cows in a lot or small pasture at night fits the program of a registered cattle breeder, but is less practical for commercial breeders. A purebred breeder's needs are different. He may breed any season of the year or time the breeding dates of individual cows to fit sales dates or various classifications for show. He may have a number of bulls to mate with various cows.

Hand-mating provides the exact calendar dates a registered breeder needs for accuracy at calving time, so he can give special attention to valuable animals. It also provides more accurate information on ease with which the cows are being settled.

GOOD BULL IS A MUST

To develop sound judgement and skill in appraising bulls, study as many bulls as



Pasture breeding is good management.

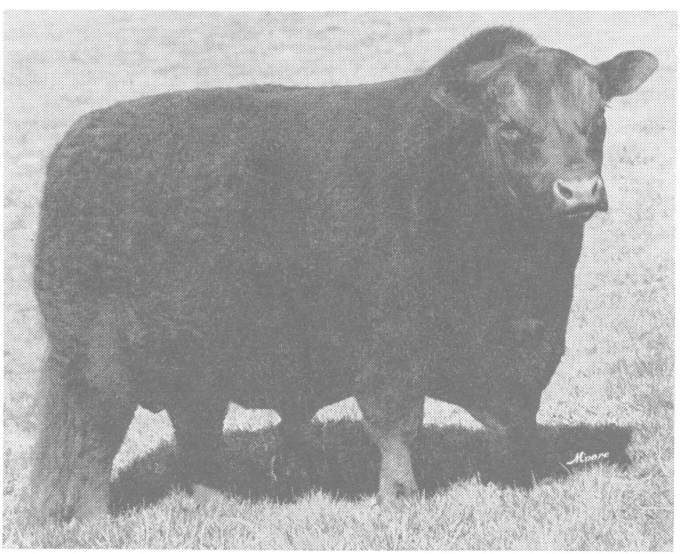
you can. Observe all the calves a bull produces. Then keep the definition of correct type in mind when you select a bull.

Choose a bull that shows breeding quality, size, weight for age, correct conformation, soundness in skeletal structure, and sufficient bone. Make sure he stands straight on his feet and legs and has plenty of natural muscling over the back, loin, and thighs. He should be thick through the hind quarters. Choose a rugged masculine bull that is alert and active and has good temperament.

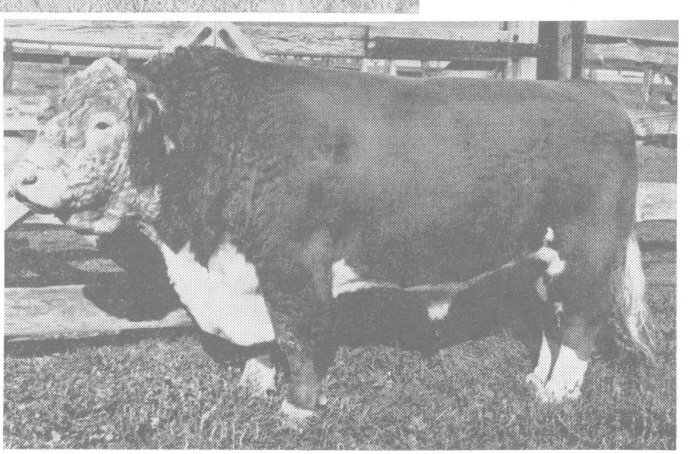
Get the figures on his birth weight, his age and weight at weaning, and his daily rate of gain for a period of 5 or 6 months after weaning. Get the same information on his sire and dam and other calves sired by his sire.

You can be reasonably sure of a bull that looks good when you see him in ordinary flesh. You cannot be so sure of a bull that is loaded with fat. He may look entirely different and be a disappointment when the fat comes off.

Select a bull evaluated to produce quality calves as well as size and fast growth. Whether you produce calves to sell as



Providing service by a bull with correct type, conformation, and quality is profitable.



When selecting a young bull, choose one that will have length and scale at maturity. Photo by H. Bell.

feeders or to finish for market yourself, you want the kind that will grow fast and are easy to sell.

With adequate mutual understanding, two or three small breeders can share the cost and service of a good bull rather than each use a scrub bull.

Artificial breeding may be the answer to your bull problem, especially if you have only a few cows. Such service is readily available throughout Ohio by either co-operative associations or independent service organization. Another possibility is to breed a few of your best cows artificially to a bull and gain a bull calf that can be grown for a herd sire.

Best evidence of the value of any bull is the quality and performance of his calves. Yet the bull buyer in nearly every instance selects from bull calves or yearlings which, of course, have no performance record. Price, availability, and management to be followed dictates the decision.

Some breeders seldom part with a good proven bull until he is too old to use. Price usually will be beyond the reach of the commercial man even if he wants to buy such a bull. Once you find a bull that is a good breeder, use him as long as possible.

Rate of Gain, a New Yardstick in Bull Selection

Over the years price, individuality, show record, and pedigree have been the chief factors in evaluating the bull. In recent years, research has delved into the heredity of rate of gain and carcass improvement and has recommended a program of breeding and testing that adds new important tools for use in the selection of breeding cattle, especially for the commercial breeder. Breed associations have developed new improvement programs as a part of their breed promotion work.

The best plan calls for weighing bull calves at birth, at weaning time, and again after a period in the feedlot for 6 or 9 months or to 1 year of age, on a good growing ration. In this way a grower can measure the individual feedlot performance of each bull calf and obtain a record of weight for age.

Research has found a high degree of correlation between a bull's growth performance in rate of gain in the feedlot and the growth performance or rate of gain of his offspring.

By systematically testing and breeding both bulls and females for faster gain and by mating rapid gainers over a number of generations, you may be able to breed cattle that gain three pounds per day in the feedlot, or 50 per cent more than the average. Every feeder has noted wide variations in rate of gain between individual steers. Performance testing offers an interesting and profitable challenge to all beef cattle breeders.

Any beef bull used on dairy cows will up-grade conformation and beefiness of offspring the first generation, and to a marked degree the second generation. The better the cow herd becomes, the slower the upgrading will progress. Time and money losses from inferior cattle in breeding a beef herd from a dairy-cow foundation warrants starting at once with beef cows. The country has large numbers of highly desirable beef cattle that can be secured at over-the-scale prices.

A commercial cattleman who starts with well-bred grade beef heifers or ordinary registered beef heifers needs a good bull to maintain this level of breeding and a better bull to make improvement. The most practical and effective way to upgrade any beef cow herd is to use a bull that is better than the cows.

USING PROVEN BULLS

Pedigree is of first concern to the breeder of registered beef cattle. Although of less importance to a commercial cattleman, even he should not ignore pedigree.

Appearance of an individual bull is important. Remember, "like begets like or the likeness of an ancestor." Individuality and performance of close ancestors measure the value in a pedigree. Team the breeder of the sire and dam of a bull, and the breeder of the grandsire and granddam. The two close generations of a pedigree will tell a large part of the story.

Consider the reputation of the cattle a breeder produces and see as many young offspring as you can. Find out whether they measure up to your desires for size, conformation, ruggedness, longevity, and general usefulness. Other offspring as well as the bull under consideration will reflect ancestry.

Always use a registered bull, but remember that registration papers alone do not guarantee the worth of a bull. Any bull calf sired by a previously registered bull and out of a previously registered dam can be registered, except for certain minor breed regulations of little interest to commercial cattlemen. Many registered cattle that are inferior in type and usefulness are continued as purebreds. Some are less desirable and have no more usefulness than a grade bull from a commercial herd.

Cattlemen make several mistakes if they buy a yearling bull, use him for a year or two, and then replace him with another yearling bull. This plan is often prompted by a price and profit consideration—buy a young bull at or near market price, use him a couple of seasons, and sell an older heavier bull at a larger price.

This practice creates a health hazard. Two calf crops may be needed to establish the worth of a young bull as a breeder. If he establishes himself as a poor performer, of course, the stockyards is the place for him. On the other hand if he is a desirable bull—settling the cows promptly and regularly and producing highly desirable calves that grow well—his breeding ability should not be lost. Such a bull should be retained as long as he continues to perform. This may well extend 8 to 10 years. Or a breeder, rather than send a desirable young bull to market, might sell him or exchange him with another breeder with a similar problem. Each will then have the service of a desirable proven bull.

Using the same sire in a small herd for several years may mean that good heifers must be sold rather than used for replacements. Heifers should not be bred to their own sire more than one generation. The commercial man is less affected than the purebred breeder. A commercial breeder with a beef cow herd of uniform breeding, who gets calves from a prepotent bull, or one that passes definite characteristics on to offspring, may operate a few years without keeping any replacements. Later he can save a larger number of heifers for a couple of years.

This plan keeps more uniformity in the cow herd. As the older bull approaches the calculated end of his usefulness, the alert cattleman will have a replacement bull on hand. Try the young bull's ability as a breeder by use on replacement heifers. This overlapping by using a proven bull as long as possible and testing a new bull at the same time tends to guarantee success in making a change.

CARE OF BULLS

A bull may become thin by fall or during the early winter and need considerable grain before the next breeding season. If you shelter the bull in winter, provide an area where he can exercise daily. Do not house a bull in a tight box stall or shed at any time. Provide an adjacent lot so he can be out when he wishes.

A bull that is too fat or too thin is likely to be a poor breeder. A bull highly fitted or fattened may be ruined for

breeding as the fattening process progresses. He is even more likely to be ruined in the letting-down process that follows. A year may be needed to get a fat 2-year-old bull adjusted from a high finish on a grain ration to pasture breed successfully. Do not attempt to let a fat bull down in condition during the breeding season.

A commercial cattleman will be wise if he avoids buying a "fat" bull. As often mentioned, fat tends to cover up weaknesses in cattle or makes them less likely to be noticed. To judge the worth of a bull in medium flesh is easier than if he's too thin or too fat.

Feed beef bulls to keep them in medium flesh so that they are vigorous. Good quality hay is a top feed. Bulls will eat up to 50 per cent more than cows. Do not have them too fat or too thin before or during the breeding season. Feed some grain and protein before heavy service. Under some conditions, you may find some feeding of bulls necessary during the breeding season, but heavy service in large pastures should not require more than half a ration of grain. One-half pound of grain to each 100 pounds live weight should be enough. Add one pound of protein daily. Use either corn or oats or a mixture of the two for the grain. Adjust quantity of grain to suit the bull's condition and breeding demand.

No grain or protein supplement should be necessary if the bull is in good condition and breeding service is light. Accustom the bull to grazing before placing with the cows. Otherwise he may lose weight rapidly if he has been fed grain indoors.

Feed a young bull the same ration suggested for heifers, but increase the amount. Give a mature bull the same pasture and feed as the cow herd. Special feeds are not necessary for a good breeding bull.

Pasture alone is sufficient in summer if enough of it is available and the quality is reasonable.

Quality legume-mixed hay in winter may be sufficient by itself. Vary a ration with some corn or grass silage, or with hay. Use some cereal straws and corn stover with hay in the first part of the winter.

Overworking a young bull may impair his usefulness later and seems to be a cause of temporary or semi-permanent sterility. A well-grown 15-month-old bull can service up to 10 cows. A 2-year-old bull should provide service for as many as 20 cows, and a 3-year-old bull up to 30 cows. Hand breeding could increase the number of cows a bull can breed. Year around breeding, which is less desirable for good management, would permit service to more cows.

BREED FOR SPRING CALVES

Bunching calves closely in age and having them come at least two or three months before full pasture season is good management. Cows on winter feed will give enough milk for small spring calves. When a cow goes on grass, she gives more milk. By then the calf is large enough to take the increased supply. Too much milk too soon can be a problem too by injuring the cow's udder.

Put the bull with the mature cows in May. If cattle management permits delay, breed heifers the first time a little later to get age advantage. This time can be recovered in succeeding breedings. Most cows will be bred in a period of less than three months.

Cattlemen will observe that some heifers or cows do not breed or that they are late in settling. As soon as these slow breeders are discovered, decide whether to get them ready for market at once or to wait until they calve and replace them. Slow breeders are not good foundation

cows. Neither should their offspring be kept for replacement cattle.

Heifers can be bred when 16 to 18 months of age, if they are properly grown and can calve at 26 to 28 months of age.

A year's planning, feed expense, and your future income are all at stake at calving time. A lost calf means that a cow produces no income that year. Take the necessary time and precaution to promote successful self birth. First calf heifers may require some assistance. Older cows usually require little attention. Do not disturb cows at calving time until you are sure they need assistance. Obtain the services of a veterinarian if you are inexperienced.

When calves are born in pastures, trouble seldom occurs with navel disease or white scours. Try to have a small blue grass pasture near buildings for early spring grazing and as a place for cows to drop their calves. Otherwise a well ventilated clean box stall or shed apart from other cattle should be provided.

Ohio weather often is not too severe for calving outdoors. Temperatures above freezing are not harmful any time. Cold wind or cold wind and rain are worst. February and March are good months to have calves arrive. As the hour approaches for calving, a cow will seek a quiet place apart from the herd if she can. A newborn calf will be up in 30 minutes and will nurse in less than an hour. Once the calf is up, dry, and full of his mother's milk, he is vigorous and well on his way.

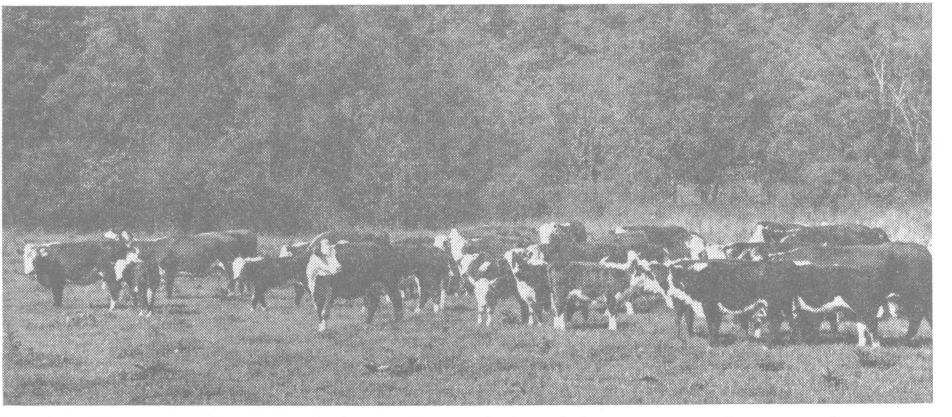
White scours—associated with cold, wet, dirty, drafty barns—is one of the chief causes of losing calves from disease. This has accounted for failure of the breeding business on many farms. White scours appear during the first ten days after calving if at all and usually causes death. Your veterinarian can treat calves successfully if called soon enough.

If cows are to calve indoors, the stall, shed, or lot must be clean, comfortable, and well bedded. Immediately after the calf is born, paint its navel with tincture of iodine to guard against infection.

Watch for udder trouble in cows that produce too much milk. You may need to milk them out a few times to save a quarter or two or the entire udder.

DWARF CATTLE AND NON-BREEDERS

Every breeder should know that dwarf cattle are the result of having both a male and female carrier of the dwarf



Herd management is improved and costs reduced by spring calving and summer grazing.

characteristic. Carrier animals may look normal in every way and may also produce normal calves The dwarf problem has wrecked some good purebred herds No producer should try to keep dwarf animals

Every bull and cow that produces a dwarf calf should be sent to the stock yards for slaughter. None of the offspring of either should be kept for replacement or sold to other breeders

Knowledge of dwarfism pedigree and history in a herd from which breeding cattle, either male or female, is purchased is a wise precaution.

Slow breeders have no place in a profitable commercial cow herd no matter how good they look. Turn the bull in by the calendar the second and succeeding breeding seasons. Cull and fit any non breeder for market.

Do not tolerate a slow breeder more than one year Sell her and her offspring when the beef market is favorable Do not complicate your management problems by trying to put up with these animals Feeding and housing the non performer adds expense to raising the calves other cows produce

Feeding Your Cow and Calf Herd

Nature made the beef cow a grass and roughage eater. A commercial beef cow herd producing calves to be sold either as feeders or fattened on the farm will use this kind of roughage efficiently.

For best cattle management, use grass over a long pasture season. Grass is an inexpensive, nutritious, and well-balanced beef cow feed. It takes little from the soil, and requires no yearly seeding and harvesting expense. It also reduces the rotated area, field labor, and operating expense needed in crop operations. New income from pasture acres can compare favorably with returns from small grains, soy beans, or hay crops.

Choice of grasses depends on the fertility of the soil. The same grasses won't be on every field on every Ohio farm. Improved bluegrass has many advantages as part of the grass to produce.

PASTURE PROGRAM FOR COWS

Pasture is the only feed people do not buy and haul to the farm. It provides the least expensive and best summer feed and is needed in larger amounts and over a longer period of the year than any other feed.

Establish pastures to give near year-round grazing and to reduce labor and other costs. Do not graze the same field the year round without regard to condition. If possible, provide more than one variety of grass in different fields. Then alternate fields.

If you can give the herd access to an area planned for winter pasture in addition to winter roughage, locate it near winter quarters for convenience. Use it carefully if you expect it to provide feed in spring and fall and to help solve other management problems.

Pasture growth—dry and green—adds much to the nutritional needs of beef cows. A winter pasture must have a heavy sod to withstand tramping. A permanent grass sod with a thick vigorous network of roots is better than legumes or ordinary, temporary meadow mixtures. Cattle can make limited use of temporary pas-

Beef cattle adjust to field conditions.

tures, however, even though they do not withstand as much tramping.

Improved bluegrass, orchard grass, or brome grass make a good permanent sod and good feed. Fit your choice of grass to the productive capacity of your soil. Fields of different grasses seeded alone will likely prove more satisfactory than grass mixtures because of management problems.

The value of improved Kentucky bluegrass for beef cows is underestimated. If properly fertilized and well managed it is highly productive in the spring and early summer and again in the fall. In most areas of Ohio bluegrass should have first consideration. It is nutritious and well liked. White clover will become a companion plant. Cows can graze reasonably early in spring or late fall, or it can be used for winter grazing. It produces well until July and then growth depends on the moisture supply. Growth stops if a long dry spell occurs and the grass turns brown. Brown bluegrass pasture is of less value, especially to calves, but cows will eat tall dry bluegrass readily and get considerable value from it. Too often when the dry period approaches, the grass is short as well as dry and brown and there isn't any feed of any value.

Supplementing the bluegrass areas by grazing a part of the meadow not needed for hay or the meadow stubble after the hay is harvested is good management for many Ohio farms.

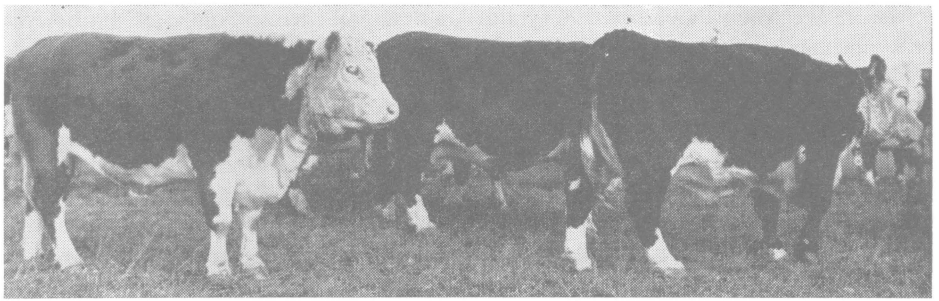
Orchard grass can be grazed a few days earlier in the spring than bluegrass. While it is less palatable, orchard grass is more productive in quantity, has a deeper root system, and withstands dry weather in summer better than bluegrass. Orchard grass makes a vigorous early growth and should be grazed or clipped to prevent heading. Orchard grass after heading becomes woody, unpalatable, and low in feed value. The more mature it gets the more undesirable it becomes. Graze fields of orchard grass and bluegrass alternately. Keep cows in the orchard grass long enough to keep it short. Then move cows to the bluegrass field. Alternate grazing is better than continuous grazing of both areas.

Brome grass is a desirable pasture grass for beef cows. It is well liked and long lived but difficult to seed. Seeded with alfalfa and timothy, brome grass will thicken as the others become thinner. It requires 3 years of growth before it is established enough to be dependable and worthwhile. It is a heavy producer on soil that will grow red clover and alfalfa. A field of brome grass to alternate with bluegrass and orchard grass along with rotation meadow would provide a good and flexible grazing program.

Seeding an early variety of timothy in a mixture of alfalfa and brome is recommended. Timothy will be of greater value the first two years than brome. Then brome grass will replace timothy.

A top growth of ⅗ grass and ⅖ legumes is more desirable for beef cows than straight legumes. A legume mixture without grasses has two important drawbacks. Straight legume or legume mixtures too often fail and leave a thin pasture or none at all. Also legume pastures are risky from the standpoint of death by bloat.

Since part of the area seeded may be used for hay or for meadow silage or rotational grazing the first and later years consider usefulness of the mixture for all these purposes. Beef cows on winter rations need the higher carbohydrate or energy value of the grass in hay more than the increased amount of protein in straight legume hay. A half-legume half-grass mixture harvested for hay or meadow silage will fill both needs—if grass and legume cuttings are timely. Beef cattle like quality



The first place for grain in beef breeding herd management is in growing out the young replacements. Mature cows should perform their function without grain.

grass hay or grass-legume hay mixtures better than all legume hay.

While some legumes in hay and pasture is desirable, also important and desirable is having a field in permanent grass or grasses large enough to furnish about half the needs of the herd. Manage the fields to produce plenty of grass first and legumes second. Apply barnyard manure in addition to the manure distributed by the grazing cows and use a mineral fertilizer containing phosphate and nitrogen. Maintaining the nitrogen in soil at a high level grows grass abundantly without including too many legumes.

Do Not Overstock Pastures

The size of herd best suited to a farm is largely determined by the pasture supply. You need to guard against overstocking the pasture.

Matching the number of cattle and amount of pasture is the real problem with every year different. Stocking with enough cattle to consume the growth in spring and early summer will usually mean either too many cattle or too little grass in late summer and fall. Drought compounds the problem. Best management is to have some surplus feed for an emergency period or a harvested supply in storage. Management may dictate reducing the number of cattle to be grazed and permit a surplus of growth than can be harvested and fed later in the summer. Or, you can provide a rotation type hay or pasture area that can be used either way or combined to help solve the problem.

A long pasture season is desirable. It can easily be stretched to nine months or a year in favorable circumstances. Best management might provide a winter pasture. A pasture ungrazed in the fall can produce much growth for use in winter. Thus providing for year round grazing is possible but difficult.

ROUGHAGE FOR COW HERDS

If there is any secret in maintaining a profitable commercial beef cow herd in Ohio, it is to use pasture in summer and roughage in winter. Provide pasture over the longest number of months possible and use a maximum of inexpensive roughages in winter.

Leave the herd in stalk fields and stubble fields in the fall until weather interferes. Gleaning the fields provides a source of feed otherwise wasted, keeps cattle outdoors away from barns, and holds down maintenance costs.

Hay and silage can be the entire ration for winter feeding. Consider a ton of good legume mixed hay as an average amount in all winter rations except those with grass silage. Cereal straws, corn stover and corn silage may lack vitamins, proteins, and minerals which hay provides. A ton of good hay can fill this need.

Mature beef cows should need no grain or supplement at any season if there is enough pasture in summer and seasonable feed in winter. In fact, mature cows will get fatter than necessary on the best pastures in summer or a full feed of quality hay and corn silage in winter. They may get so fat that breeding and calving troubles may result. To full feed straight legume mixed hay or hay and corn silage is extravagant, so add straw and stover to stretch the feed supply. Let cows have all the roughage they want.

Either corn or grass silage and legume mixed hay makes an excellent combination. Beef cows will get too fat if corn silage is full fed. Limit corn silage to no more than 20 pounds per day and encourage the cows to eat more hay. The higher vitamin, mineral, and protein content of the hay insures that these needs are met. One ton of legume mixed hay and two tons of corn silage should winter one beef cow. In the feeder calf area one ton of hay and a long pasture season might be sufficient.

Cull and replace cows that do not keep good fleshing and do not develop and deliver strong calves on roughage rations.

A succession of pasture grasses that permit the earliest possible grazing in spring and through the summer and as late in the fall as possible is smart management. Meadow seedings and meadow growth in summer can provide additional flexibility. Meadow seedings and meadow growth in summer can provide additional flexibility. A pasture area permitted to grow in the fall and then used as a winter pasture is good.

A fat beef cow may be more pleasing to the eye than a thinner one but the fat one may not produce any better calf than the thinner one. The difference in cost will lower the profit potential. Also a fat beef cow may have trouble both at breeding time and calving time.

Best management on some farms will require a silo for stretching the feed supply derived from either corn or a meadow crop. A silo might contain feed to rely on when the summer pasture fails to meet requirements as well as providing an increased winter feed supply. Best management on some farms may be to ensile corn stover for use in the wintering ration. Much feed is lost when the stover is left in the fields.

Steers and Heifers Can Be Fed Together

Steers and heifers can be fed together without any measurable loss of gain on either. Heifers will develop and fatten faster than steers and, depending on the ration, will reach a marketable finish 30 or more days earlier than steers.

Normally heifers are not as popular as steers on the market primarily because buyers discount the risk of heifers being pregnant which reduces yield. Most buyers prefer heifers weighing 825 to 950 pounds. During the past decade, buyers have not been as critical in this respect as formally. The best time to market steers or heifers to the best advantage is when they are properly finished. To feed well bred steers a longer period if the market situation appears to be favorable and the steers are not over 1100 pounds is sometimes wise.

Larger cattle require more feed per hundredweight of grain. Generally more money can be made in feeding a large number of cattle to a light weight than in feeding a few cattle to a heavy weight.

CALVES—FATTENING, CREEP FEEDING, WEANING

Homegrown feeder calves born in the spring, weaned in the fall, and put in dry lot as soon as they are weaned should be started at once in the fattening process. Use a maximum of corn silage as the

chief feed. Feed all the corn silage calves will eat. Add 1½ pounds of soybean meal or its equivalent per day if no hay is fed. Continue feeding this amount daily until the calves are sold. Limit the corn to 3 or 4 pounds a head daily at the start. Increase the amount according to the feed supply, condition of the cattle, and the market. You should not have to feed more than 6 or 7 pounds daily at market time.

This way the calf crop can be on the market from June to August according to sex and finish at a season when this weight and finish sell to good advantage. This is an advantage because most short-fed yearlings and plainer grades of fat cattle have gone to market, and grass-fed cattle have not yet started to show up in large numbers.

Winter and dry lot finishing simplifies the total farm management because it permits carrying more cows to use the pasture and grazing area for raising calves. It gets the calf crop off the farm in 15 or 16 months.

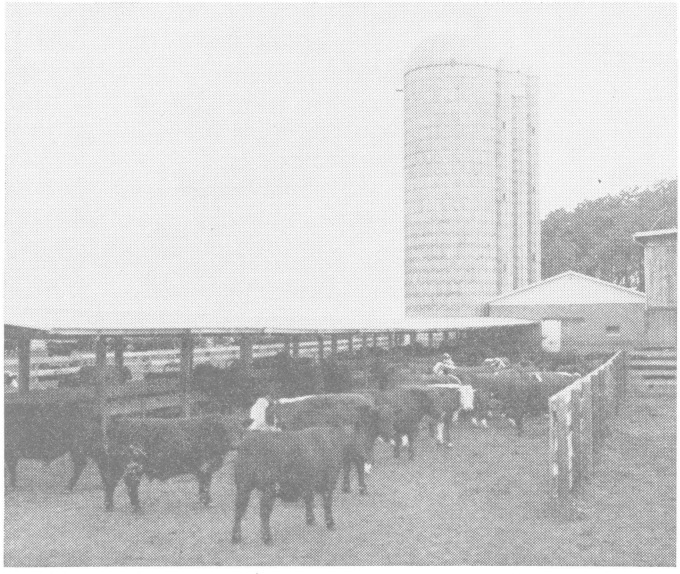
This type of program utilizes a lot of silage and a minimum of hay and grain in the feedlot operation and a maximum of hay and minimum of grain in the cow operation. It returns more net dollars and more pounds of beef per acre. Daily gains will not be as great as with full feed of corn nor will calves be as fat at market time. Cattle will gain efficiently and carry enough finish and quality to sell profitably in any Ohio market.

This plan of feeding will prove profitable always, because it is flexible enough to allow changes to fit market conditions.

Creep Feeding

Use either a portable self-feeder creep or a stationary one, whichever best suits your operation. Cattlemen who desire to sell 500 to 700 pound butcher calves might begin creep feeding when the calves are 4 weeks old. This kind of butcher calf is usually sold at weaning.

If you plan to finish the calves as yearlings the next June or July, you can creep-feed all the way. Just wean and place the calves in the feed lot and continue them on full feed. When creep-fed calves go directly into the feedlot, no weight will be lost.



Spacious concrete feedlots with high silage rations fed mechanically are desirable in Ohio.

For creep feeding use all whole oats or all shelled corn according to supply and price. If price warrants, one-half shelled corn and one-half whole oats will be as satisfactory as either alone. No protein supplement should be necessary while calves are suckling cows and eating grass. Calves will learn to eat quicker if you sprinkle a little bran over the grain at the start. Calves usually will learn to eat when less than 30 days of age. Locate the portable creep near shade, water, or the favorite loafing place of the cows. This will tend to encourage grain consumption.

Consider the advantages of finishing and selling the calf crop in June or July out of dry lot rather than pasturing them another summer and feeding in the fall for an early winter market.

On most farms adding more breeding cows to the program and utilizing pasture with cows raising calves will be more efficient than to pasture yearlings. Cows, the new calf crop, and a crop of yearlings complicate management of fields and buildings.

Yearling heifers which graze the second summer reach an age and weight normally discounted on most markets.

If you live outside the corn area of Ohio where calves will be sold as feeder calves, creep feeding calves some years and not other years may pay. It is a competitive situation — competitive with cost, size and weight of calves, available pasture, milking ability of the cows and the attitude of cattle feeders. It most always pays to creep feed during a dry year.

The feeder calf market partially determines whether creep feedings pay. Most feeders would rather buy well-grown muscular calves than heavier fat calves. The feeder producer wants to sell all the pounds of calf he can at as high a price as he can. Pounds multiplied times price gives income. A big fat calf may bring no more per head than a lighter growthy calf. It may cost more to produce the fat calf so that it is actually less profitable.

An early spring calf which gets enough milk and pasture to weigh 475 to 500 pounds by October may be more profitable than one creep-fed and weighing considerably more. Creep feeding is a management choice and should not be considered as a replacement of better breeding potential, better pasture, and more cow milk to achieve weight.

Creep feeding may be quite desirable and more profitable if calves are born in late summer, pasture is poor, cows milk poorly, or for any set of circumstances than results in too little weight to sell.

On the other hand a smart cattle feeder would rather buy growthy calves rather than fat ones and put the fat on them himself because he can add fat cheaper than he can buy it. Minus margins are a deterrent to buying added fat. Plus margins would provide an advantage. Some feeders may pay for extra fat at times to shorten a feed lot period which they evaluate to be worth the added risk. If you produce feeder calves, aim for good pasture have cows to calve to take advantage of the pasture season, and milk satisfactorily and the right kind of cattle rather than to try to make up losses from these factors by creep feeding.

Weaning

Unless pasture or other feed is good in the fall, cows suckling calves may get thin. Calves also may lose weight. Avoid this by weaning and selling calves or start them in the feedlot according to the marketing plans. Give your cow herd a chance to gain some weight in the late fall. Condition of cows and calves, pasture available, and feed supply are the best guides for knowing what to do. (Ordinarily it will pay to wean calves from October 15 to

November 15 and let the cows glean the fields as late as possible.) Too little fall pasture will result in a more expensive winter feeding program. Don't short change cows in late summer and fall.

If you produce feeder calves you will want to produce as many pounds per calf as is economically possible. The available fall pasture may make it desirable for you to sell early or to sell late in the fall. The trend of feeder prices may also be a factor.

WINTERING BRED BEEF HEIFERS

Weather and fleshing condition of the heifers are guides to fall management of bred yearling heifers. The winter feeding program ordinarily will begin sometime between mid-November and New Year's Day. Keep heifers out of the barn as much as possible utilizing any pasture, roughage in corn field stubble, and cut-over meadows. Feed additional roughage as required.

Heifers must be wintered for continued growth and for development of unborn calves. Heifers must be in good flesh at calving time with plenty of reserve to help produce a good flow of milk for their first calves. Plenty of good hay to provide protein, vitamins, and minerals is a chief concern.

Either corn silage or meadow crop silage or legume mixed hay should provide the bulk of the winter ration. Use some stover and cereal straw in the forepart of the winter. A ton of quality legume-mixed hay and 2 tons of corn silage should be enough roughage to winter one bred heifer.

If hay is in short supply and corn silage is plentiful add ½ pound of soybean meal or its equivalent daily for each heifer. Add 3 to 4 pounds of corn or oats or a mixture of the two if the heifers are thin. If hay is plentiful, limit corn silage as necessary to encourage them to eat enough hay.

Quality meadow crop silage is higher in vitamins, minerals, and protein than corn silage. Heifers should need no additional protein with plenty of meadow crop silage and hay rations. Add 2 to 3 pounds of corn or oats or a mixture of the two as condition of heifers warrants.

Mixed legume hay and 3 or 4 pounds of corn or oats daily is satisfactory for farms where no silage is available. It will require less than 2 tons of hay per head for the winter season. Judgment as to the condition of the heifers will dictate the amount of limit on the grain part of the ration in early winter. It may be desirable to increase the grain toward spring as the calving season nears.

Continue to feed heifers after calving the same as before until they go to full pasture.

Get heifers and their calves away from barns and barn lots as early as grass is ready. Cows will increase milk flow when turned out and should not need grain.

For the good of heifers and your pocketbook, heifers should not be too fat at calving time.

Wintering Calves

Heifer calves for future breeding should be wintered to grow well and not to fatten. In the long run to grow them well will be cheaper than to delay their development and run into management problems by breeding too late.

Use either corn or grass silage and quality legume mixed hay as the basic ration. Feed calves all they will eat.

Add ½ pound of soybean meal for each heifer daily with corn silage. If hay is of poor quality, add 1 pound of protein supplement per day. Full feed the hay. Limit corn silage to half a ration to encourage increased hay consumption. An average amount for wintering one heifer calf is 1400 pounds of legume mixed hay,

2000 pounds of corn silage, and 100 pounds of protein supplement.

No additional protein should be necessary with grass silage but add at least 4 pounds of grain daily for each heifer. Use cracked shelled corn, corn and cob meal or whole oats in any proportion that is most readily available and least expensive.

On farms where no silage is available, legume mixed hay, corn and oats will give good results. Feed a full feed of hay plus 4 pounds of grain daily. Add ½ pound of protein daily if the quality of hay is not good.

With any of these rations grain equivalent of 12 bushels of corn is sufficient for each heifer all winter. Each heifer will need about 100 pounds of protein supplement.

Heifers fed these rations should gain 1½ pounds daily. They should grow rapidly on grass the following summer.

To limit the quantity or quality of roughage and try to make up the difference with more protein and more grain is poor management.

MINERALS AND SALT

Beef cattle will consume about 2 pounds of salt per month per head. Provide them with loose trace mineral salt free choice the year round. Cattle will eat more salt when on grass than in dry lot. Replenish the salt supply regularly every few days. Block salt is less satisfactory than loose salt and is not recommended for the only supply.

Quality farm grains and forage contain a wide variety of minerals in varying amounts including so-called trace minerals. Calcium and phosphorus are the two mineral elements required in largest amounts. Feeding minerals will not remedy troubles caused by feed, lack of feed management, or health problems that are not being handled correctly. When a mineral element is added it will only correct trouble caused by a lack of that particular element or its role in functioning with other elements.

Provide steamed bone meal and feed grade ground limestone made for livestock feeding free choice the year round. Mix the two half-and-half. One part salt to four parts of the mixture will increase consumption. This should not be the only salt provided. Prepare only a small supply at a time. It hardens when wet.

Several mineral mixtures are on the market that provide several trace elements along with calcium and phosphorus. Feed such minerals free choice whenever facilities permit.

SAFEGUARD AGAINST BLOAT

Bloating is an old problem to cattlemen and one often misunderstood. Despite all theories about bloat there still is no practical method of preventing it that will guarantee success under all conditions.

Bloat is caused by a gas which forms in the paunch, a section of the stomach, faster than it is eliminated. It can be recognized by an expanding or swelling on the left side in the hollow just in front of the hip. It may not become serious until the same condition begins to show on the right side. Severe bloat may cause death by filling the paunch until it crowds the lungs and causes death by suffocation.

Cattle in dry lot on standard beef cattle rations seldom bloat—and very rarely do it when corn silage is a major part of the ration. Second and third cutting alfalfa or ground barley sometimes are bad offenders if cattle eat large amounts before they become used to them. Finally ground grain and overfeeding sometimes may be contributing causes.

Beef cattle seldom, if ever, bloat seriously on any grass. Cattle that bloat on bluegrass or other grasses such as timothy

or brome grass probably had an assist from some legume.

Bloating generally is more serious when beef cattle graze on succulent, tender, rapid-growing legume pasture when conditions are favorable to rapid growth.

Plants chiefly causing bloat are the legumes, ladino clover, alsike clover, alfalfa, red clover, and white clover—in about that order. Include enough grass in meadow mixtures to insure about ⅗ grass and ⅖ legumes. Omit ladino clover entirely.

If pasturing steers on legume pasture, provide a field of bluegrass or other grass adjacent to the legume pasture or feed grain or cured hay. Such management tends to lessen the risk but some losses will occur regardless.

Steers turned out to graze in the spring seem to be more apt to bloat than mature beef cows. In either case, feed the cattle plenty of dry feed before they are turned out and provide salt and minerals free choice.

Many home remedies are effective for bloat control. One standard and cheap remedy is to drench with a pint of mineral oil. This gives relief quickly. A good husbandman will have mineral oil of some kind and a trocar readily available at all times. A trocar is a tube that is used to puncture through the side and into the paunch to permit the gas to escape. Sometimes bloating is so serious when discovered that delay will not permit drenching or waiting for a veterinarian. Puncturing the paunch on the left side with a knife may be the only alternative.

Preventing Disease and Ailments

Prevention of a disease is more practical and economical in the long run than treatment measures after a disease has attacked. Clean sanitation, good management, attention to detail, and plenty of quality feeds will give protection from many troubles.

Know your veterinarian and consult him at once when you suspect trouble. The earlier a diagnosis and treatment is made, the more successful it is likely to be.

Beef cattle are outdoor animals. Barns and barn lots become infected with disease. A wise cattleman will keep cattle, especially young cattle, out in the fields away from barns and lots as much as possible.

DETECT BANGS SYMPTOMS

Breeders agree that brucellosis is one of the most difficult of all cattle diseases to control. Many cattlemen have given up their breeding business completely or suffered substantial financial losses because of its ravages in their herds. Observe every known preventive measure and be quick to detect its presence in the herd before it reaches destructive proportions.

Brucellosis, commonly called Bang's disease, is a disease of the reproductive system caused by a contagious germ. Most infected animals abort their calves between three months and seven months of pregnancy. Bang's disease is said to cause sterility and bulls may be infected as well as females.

Abortion may result from other infections than by Bang's disease. But look upon every abortion with suspicion. Seldom will an accident be the cause of abortion.

Be suspicious of cows that are difficult to breed and those that do not clean rapidly after calving without assistance. These troubles may be forerunners of serious difficulty. First-calf heifers are more likely to abort than older cows.

The disease apparently spreads through contact with infected animals. Humans may contract the disease. Use care when assisting at calving time. Likewise use extreme precautions when destroying an aborted fetus or afterbirth.

A blood test provides the most accurate diagnosis of Bang's disease. Immediately isolate suspected animals or those that abort. Remove them from the herd at once if a blood test confirms them to be infected.

Some cows may be carriers of the disease and produce normal calves yet never abort. Other cows, though exposed to the disease have a high degree of resistance and do not become infected. These situations may contribute to negligence and carelessness in controlling the disease.

Brucellosis is destructive and treacherous. Consult a good veterinarian at the first sign of trouble because each herd is a different problem. He will assist you to work out the best plan to follow in combating the disease.

Much of the spread of Bang's disease can be traced to trading cattle. Buy only breeding stock on which an official health certificate has been issued and buy subject to a retest in 30 to 60 days. Keep newly purchased cattle isolated until after retested.

Test the entire herd after a calving period if suspicious of any trouble. Test replacement heifers under eight months purchased or bred on the farm. Have them officially vaccinated if clean. Sell them if not clean.

CONTROL LICE

Cattle housed close in barns often become lousy, while cattle in pasture seldom

have lice. When cattle rub on feed bunks, posts, fences, and the like, suspect them of being lousy. In some cases they may rub off patches of hair exposing a rough appearing skin. Lice are more easily seen in mid-winter or early spring because they are more numerous. Treatments can be made safely any time.

Some lice are blood suckers and others are of the biting type. Creosote dips will kill those that suck blood.

Use one half pound of five percent rotenone powder to 25 gallons of water for good control or any one of several spray materials available. Spray animals until they are wet to the skin all over. A high pressure sprayer does the best job.

Choose a day to spray when the temperature is above freezing and likely to remain so for several hours or until the cattle dry. Also avoid a windy day. Dusting is less convenient and effective than spraying.

Repeat any spray treatment at two week intervals because eggs present at first treatment may not be affected and will hatch allowing lice to continue to multiply.

PINK EYE ON THE INCREASE

Pink eye is an infectious disease more prevalent when cattle or calves are on pasture in summer and in feeder cattle shipped into Ohio in the fall. Confining the infected cattle in a dark stall may be the only treatment necessary. Mild cases may soon disappear, and severe cases may cause blindness.

Germs causing the infection may be spread by flies. Infected eyes have a watery discharge. Eyelids swell and membranes in the corner take on a pinkish appearance. Later the eye has a milky appearance.

Eyes are sensitive to light and infected animals tend to close their eyes. A home remedy is to wash the eyes with a solution of one ounce of boric acid to two quarts of water. You can secure a ten per cent solution of Argyrol and apply two or three drops in the eye two or three times daily. Some cattlemen use a five per cent sulfathiazole ointment. Some veterinarians now recommend a new solution that is sprayed on with an atomizer type sprayer. The new treatment is easy and seems effective.

WARTS UNSIGHTLY, NOT DANGEROUS

Warts often appear on young cattle—usually about their heads, necks, and shoulders. Warts are contagious and may spread through the skin by contact with warty animals or by rubbing against feed bunks, buildings and posts previously used by an infected animal. Warts often disappear without treatment.

Daily applications of sweet oil, castor oil, or olive oil will remove many warts. Clip off those that are small at the base with scissors or a sharp knife or tie them off with a silk thread or rubber band. Then paint the root with tincture of iodine.

Warts may warrant veterinary attention occasionally. In extreme cases, vaccination may be necessary.

TREAT RINGWORM

Ringworm is a fungus parasite mildly contagious and may spread to other animals. Young cattle are more susceptible than older cattle and ringworm occurs more often during the winter and spring than other seasons.

Round, rough, hairless patches about the head, neck, and shoulders may identify ringworm. Each affected area usually is less than two inches in diameter.

Wash the area thoroughly with soap and water to remove the scaly rough material. Then paint the area daily with tincture of iodine until it heals.

STOMACH AND INTESTINAL WORMS

To assume that beef calves do not have stomach or intestinal worms is a mistake. Late summer calves tend to be more susceptible to growth retardation caused by worms.

Worm eggs are passed in droppings and picked up by the calf. The number of worms increases with short pasture. Young calves getting limited amounts of milk are less able to throw off effects of worm development in the digestive tract. Plenty of milk and good pasture may reduce worm effects.

Consult your veterinarian for kind and strength of mixture for treatment for each animal. Strength of dosage of various treatments varies with age and size of calf. Do not treat young calves at all. The veterinarian may suggest using phenothiazine. Copper sulphate dissolved in water may be recommended for stomach worm control while nicotine sulphate is effective against tapeworms as well as stomach worms. Combining both sulphates is effective.

PNEUMONIA

Pneumonia outbreaks seem to be associated with management problems. Calves and young cattle are most susceptible and early spring and late fall are the most likely seasons. Calves shipped in from the South or West are often victims.

Proper housing offers partial prevention. Cattle of all ages can withstand cold temperatures and weather changes fairly well but calves may at times need some protection against cold rains accompanied by wind or high winds. Try to provide a barn or shed open to the East or South or an L-shaped structure open on two sides with an adjacent lot. Less trouble will occur if calves can be indoors or outdoors as they choose. Avoid overcrowding young cattle in otherwise satisfactory quarters. Pneumonia seems to be more common in wet, cold, dirty, and poorly ventilated barns. Drafts or a lack of proper ventilation seem to be contributing major causes. Low ceiling barns and bank barns seem to be worst offenders.

The tendency is to put young cattle in a barn to be good to them. Then as weather changes occur or the daily chores are done, workers open and close barn doors accordingly. If you pen young calves in a barn and try to control ventilation and drafts by opening and shutting doors you will create conditions that are wrong about as many times as right.

CALF SCOURS

Young beef calves may scour if they get too much milk or milk that is too high in butterfat or other reasons. Watch the feeding of the cows.

There are a number of causes of scours in young beef calves. Use preventive measures rather than be forced to use control measures. Scouring indicates that for some reason there are too many harmful bacteria in the digestive tract. It may be caused by improper feeds or feeding practices. This form of scours is not serious. Locate the cause by reviewing changes made in the ration—including hay. Often you may need only to change the ration to relieve the trouble.

A highly infectious scours — white scours—sometimes takes a heavy toll of calves within ten days after they are dropped. Germs are associated with unsanitary premises. If cows must calve indoors, be sure the calving quarters are clean and well-bedded.

White scours are seldom troublesome when the cows calve on pasture. Ask your veterinarian for vaccination of white scours.

COCCIDIOSIS

Suspect this disease when you see masses of blood-clots in droppings. Coccidiosis occurs with feedlot cattle occasionally, as well as beef cow herds.

An intestinal protozoa causes the disease. It enters the body from previously contaminated feed or water. The protozoa locates in the intestinal tract damaging the walls of the intestine and may cause severe bleeding. For effective control give sulfa drugs under the direction of a veterinarian. Protect the water supply from further contamination and provide well-bedded quarters to help prevent the disease from spreading.

CATTLE GRUBS

Cattle grubs are the larvae of the ox warble. In midwinter the grubs first appear as lumps on backs of cattle. These grubs come from eggs of heel flies laid on legs of cattle when on pasture the previous summer. When the eggs hatch, the larvae enter the animal through the skin and travel through the flesh to the neck area and later through the flesh to the back. The full grown larvae reaches the backs of cattle approximately nine months after the larvae enters the leg area.

Losses can be heavy due to a slower rate of gain, damage to the hide and necessary trim of the beef carcass. Be alert to destroy grubs.

A treatment to kill grubs at the time of emergency is to use three ounces of five per cent rotenone powder, one ounce of soap flakes and one quart of water to make a liquid for spraying or washing the cattle. Wet the entire area where the lumps first appear. Then treat every two weeks at least four times or as long as new lumps appear. Each treatment will require from one-half to one pint of liquid for each animal. Squeezing the grubs out is not necessary. They will die and be absorbed.

Scientists have perfected materials that can be sprayed on cattle to control grubs. These newer materials are called systemics. These are very potent materials and should be used shortly after the heel fly season and never two or three months before emergency begins. The idea is to apply the systemic spray to be absorbed through the hide and into the blood at a concentration level strong enough to kill small larvae within the flesh. An overdose may cause death or if the larvae are numerous and near mature size, the cattle may not be able to survive the treatment. Consult your veterinarian before treatment.